

MECHANICAL COMPACTION HAMMER VERIFICATION PROCEDURE #21A

Revised April 24, 2002

Equipment Checked: **MECHANICAL COMPACTOR (AASHTO T 245)**

Purpose:

This method provides instructions for checking the critical dimensions and drop of the mechanical hammer used for compaction plugs.

Inspection Equipment Required:

1. Calipers readable to 0.001 inches
2. Tape measure readable to 1/16 inch.
3. Balance, capacity 5 kg (5000 g) readable to 1 g.

Tolerance:

Equipment shall meet the dimensional tolerances specified in the applicable test method.
Tolerance should be limited to ± 0.02
difference from the average specific gravity of the set.

Procedure:

1. Measure and record the diameter of the rammer face by taking two readings 90° apart.
2. Determine and record its mass to the nearest 0.009 kg.
3. Determine and record the drop of the hammer 18.00 ± 0.06 inches.
4. Mechanical hammer should be calibrated against a manual hammer.

Have enough mix for at least two or four plugs, depending on the type of mechanical hammer, single hammer, or triple hammer. Pound one plug with hand hammer and the rest with the mechanical hammer. After the plugs are cooled, jack them out of the molds and do a density test. Compare the results using the hand hammer as the referee sample. If the results correspond to the hand hammer, they are okay. If the result is a lower density, make more plugs and use more blows. If the results of the density are higher make plugs at less blows. Use varying amounts of blows either way, until the results correspond to the hand hammer results. This amount of blows should then be used to make plugs.

EQUIPMENT CALIBRATION RECORD

Calibration Procedure No. 21A Mechanical (Marshall) Hammer (AASHTO T 245)

Date:	Calibrated by:
Previous Calibration Date:	Next Due:
Frequency: 36 Months	
Action Recommended: Repair _____ Replace _____ None _____ Other _____	
Calibration Equipment	Serial Number
Balance	
Calipers	
Number of blows required for mechanical hammer to be within 1.0 lb/cu ft of the hand hammer: _____	

AASHTO SPEC. Hammer I.D.	98.4 mm ± 1.0 Dia. of face	4527 g. - 4545 g Sliding weight	18 inches ± 0.06 free fall